

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division
1520 E. Sixth Avenue
P.O. Box 200901
Helena, Montana 59620-0901**

**Stillwater Mining Company
Sections 1, 2, 10, 11, 15, 16, 21, and 23, Township 5 South, Range 15 East, Stillwater County,
Montana
2562 Nye Road
Nye, MT 59061**

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required	X		Method 5 and Method 9, Visual Surveys
Ambient Monitoring Required		X	
COMS Required		X	
CEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
Applicable Air Quality Programs			
ARM Subchapter 7 Montana Air Quality Permit	X		MAQP #2459-15
New Source Performance Standards (NSPS)	X		40 CFR 60, Subpart LL
National Emission Standards for Hazardous Air Pollutants (NESHAPS)	X		40 CFR 61, Subpart M
Maximum Achievable Control Technology (MACT)	X		40 CFR 63, Subpart <i>ZZZZ</i>
Major New Source Review (NSR)		X	
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
Compliance Assurance Monitoring (CAM)		X	
State Implementation Plan (SIP)	X		General SIP

TABLE OF CONTENTS

SECTION I. GENERAL INFORMATION.....	3
A. PURPOSE.....	3
B. FACILITY LOCATION	3
C. FACILITY BACKGROUND INFORMATION	3
D. CURRENT PERMIT ACTION	7
E. TAKINGS AND DAMAGING	8
F. COMPLIANCE DESIGNATION	8
SECTION II. SUMMARY OF EMISSION UNITS.....	9
A. FACILITY PROCESS DESCRIPTION	9
B. EMISSION UNITS AND POLLUTION CONTROL DEVICE IDENTIFICATION	9
C. CATEGORICALLY INSIGNIFICANT SOURCES/ACTIVITIES	10
SECTION III. PERMIT CONDITIONS	11
A. EMISSION LIMITS AND STANDARDS	11
B. MONITORING REQUIREMENTS	12
C. TEST METHODS AND PROCEDURES.....	12
D. RECORDKEEPING REQUIREMENTS	13
E. REPORTING REQUIREMENTS	13
SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS	14
SECTION V. FUTURE PERMIT CONSIDERATIONS.....	20
A. MACT STANDARDS (PART 63)	20
B. NESHAP STANDARDS (PART 61)	20
C. NSPS STANDARDS	20
D. RISK MANAGEMENT PLAN.....	20
E. CAM APPLICABILITY	20
F. PSD AND TITLE V GREENHOUSE GAS TAILORING RULE.....	21

SECTION I. GENERAL INFORMATION

A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emissions units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the Environmental Protection Agency (EPA) and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the original application submitted by Stillwater Mining Company (SMC) on April 1, 1999; additional information submitted on May 27, 1999; comments submitted on the Draft Operating Permit received on December 4, 2000; comments received from EPA on April 24, 2001; information provided in the application for significant permit modification submitted on December 27, 2001; additional submittal on March 19, 2002; additional information received on November 15, 2002; information received by the Department of Environmental Quality (Department) on October 7, 2003; the operating permit renewal application submitted on December 7, 2005; additional information received on November 4, 2011 and November 30, 2011; the operating permit renewal application submitted on December 23, 2011; comments on the Draft Operating Permit received November 14, 2012; the administrative amendment request received March 29, 2013; and from Montana Air Quality Permit (MAQP) #2459-15.

B. Facility Location

The mine facility is located 6 miles south of Nye, Montana. The legal description of the site is within Township 5 South, Range 15 East, in Stillwater County, Montana.

C. Facility Background Information

MAQP Background

MAQP #2459 was issued for the Stillwater Mine on March 29, 1988, to SMC. It was based on 1000 tons per day of ore production.

MAQP #2459A was an alteration issued October 21, 1988, to extend mining to the east side of the Stillwater River with no increase in ore production, but a slight increase in particulate emissions.

MAQP #2459A-2 was issued March 11, 1991, to clarify language relative to the annual production limitation.

MAQP #2459-03 was issued August 14, 1992, to increase the ore production rate from 1,000 to 3,500 tons per day (TPD) and from 365,000 to 730,000 tons per year (TPY).

MAQP #2459-04 was a modification issued on April 27, 1993.

MAQP #2459-05 was a modification issued on June 18, 1995, to clarify the performance testing requirement on the wet scrubber controlling emissions from the concentrate dryer. The permit was also updated to include a more specific listing of applicable regulations.

MAQP #2459-06 was an alteration issued October 18, 1995, to replace the concentrate dryer wet scrubber with a fabric filter collector (baghouse). Notification and testing requirements relative to the baghouse were also added.

MAQP #2549-07 was a modification issued on April 17, 1997, to add crushing, screening, and hauling of bedding material to the emissions inventory in the permit analysis. It had been inadvertently taken out of the emissions inventory in a previous permitting action. Permit number citations in the permit and analysis were also updated.

MAQP #2459-08 was issued on October 25, 1998. SMC requested a production limit increase from 730,000 TPY or 3,500 TPD, to 1,825,000 TPY or 5,000 TPD. The increased activity at the mine resulted in an increase in PM₁₀ emissions of approximately 48 TPY. A New Source Review – Prevention of Significant Deterioration (NSR/PSD) review was not required for the proposed production increase because the facility is not a listed source nor does the facility's potential to emit (excluding fugitive emissions) exceed 250 tons per year of any pollutant.

In addition, SMC planned to construct and operate a new tailings impoundment located approximately 7 miles northeast of the mine site (2 miles northeast of Nye), install a pipeline system along Stillwater County Road 420 and reclaim the resulting surface disturbance, and expand the waste rock storage area located on the east side of the Stillwater River at the mine site.

The application review addressed potential emissions from the new tailings impoundment and east side waste rock storage area. The Department review of the application did not address emissions generated during the construction of the tailings impoundment or the pipeline system. During the construction activities, SMC is responsible to comply with applicable requirements.

SMC submitted written comments dated March 16, 1998, on the preliminary determination (PD) of MAQP #2459-08. As a result of those comments, the Department made several changes to the permit. The language in Section II.A.1 was revised to remove the language requiring emission testing every 4 years. Testing was required when the dryer's process rate increased above the process rate that the dryer was functioning at during the last performance test. For example, if the dryer process rate increases above the level it was operating at during the particulate test performed on October 21, 1996, an emissions test would be required. The Department removed the requirement for SMC to move the downwind PM₁₀ sampler within 90 days after MAQP #2459-08 is final. The permit does specify that SMC would move the sampling site to a different location, approved by the Department, at such time as the east-side waste-rock storage encroaches on the current location. SMC was required to request the Department's approval of the new downwind PM₁₀ sampler at least 90 days prior to moving to a new site. The Department added crushing, screening, and hauling of bedding material to the emissions inventory in the Permit Analysis. This activity was listed in MAQP #2459-07. Controlled emissions from this activity are 2.32 tons per year. MAQP #2459-08 replaced MAQP #2459-07.

On March 29, 2000, SMC was issued **MAQP #2459-09**. SMC submitted an application on January 20, 2000, for the alteration of MAQP #2459-08. The alteration included the installation and operation of a new surface jaw crusher and conveying system. The new system is subject to 40 CFR, Subpart LL, New Source Performance Standards for Metallic Mineral Processing. MAQP #2459-09 replaced MAQP #2459-08.

On April 11, 2001, the Department received a letter from SMC requesting a need for permit determination for the addition of an emergency generator at the Hertzler Pump Station, a Nordberg cone crusher (maximum capacity 70 ton/hr), and associated material handling equipment. Because the potential uncontrolled emissions from the proposed changes did not exceed the de minimis threshold of 15 tons per year, the permit action was accomplished under the Administrative Rules of Montana (ARM) 17.8.705(1)(r). The crushing system was determined to be subject to 40 CFR 60, Subpart LL, New Source Performance Standards for Metallic Mineral Processing. MAQP #2459-10 replaced MAQP #2459-09.

On December 27, 2001, SMC submitted a complete permit application for the alteration of MAQP #2459-10. The alteration involved the addition of an existing, but not-permitted, cement batch plant including conveyors and material silos and the modification of the existing Nordberg cone crusher. Further, the permit action incorporated an existing, but not-permitted, paste plant and associated cement silo in accordance with ARM 17.8.705(1)(r).

The Nordberg cone crusher and all associated material transfer points are subject to the requirements of 40 CFR 60, Subpart LL, Metallic Mineral Processing Plants.

Further, in accordance with MAQP #2459-10, on October 1, 2001, the downwind PM₁₀ air sampler was relocated to the Stillwater Valley Ranch (Stillwater North). Attachment 1, Ambient Air Monitoring Plan – Stillwater Mining Company, to air quality MAQP #2459-11 was updated to incorporate the changed downwind PM₁₀ monitoring location. **MAQP #2459-11** replaced MAQP #2459-10.

On March 19, 2002, the Department received a letter from SMC requesting a modification to air quality MAQP #2459-11. The modification includes removing the Hertzler Pump Station emergency diesel generator from the list of permitted equipment and adding an emergency diesel generator (Paste Plant Emergency Flush Pump) to the Paste Plant facility. Because potential uncontrolled emissions from the proposed Paste Plant Emergency Flush Pump, operating under the emergency generator requirements in Section II.A.13 of Preconstruction MAQP #2459-12, do not exceed the de minimis threshold of 15 tons per year, the current permit action was completed in accordance with ARM 17.8.705(1)(r). **MAQP #2459-12** replaced MAQP #2459-11.

On January 15, 2003, SMC was issued final Montana Air Quality MAQP #2459-13. This permit action removed Attachment 1, Ambient Air Monitoring Plan, and discontinued ambient monitoring requirements for the Stillwater Mining operation, effective at the end of June 2002. Further, under this permit action, SMC added two 1,500 cubic feet per minute (cfm) 400 kilowatt (kW) diesel air compressor engines (compressors #1 and #2) to the permitted equipment at the facility. Finally, the Department updated various sections of the permit to reflect current permit language and requirements. **MAQP #2459-13** replaced MAQP #2459-12.

On November 4, 2011, the Department received an MAQP modification application from Bison Engineering, Incorporated (Bison) on behalf of SMC to install a new 28 MMBtu/hr propane-fired portal heater at the 5000 East Portal to provide additional warm air to the underground mining operations during the winter months. In addition, SMC proposed to increase the underground ventilation capacity to 2,000,000 cubic feet per minute (cfm) to meet Mine Safety and Health Administration (MSHA) standards as the total underground area expands. A propane-fired concentrate dryer had been decommissioned and replaced with a hydraulic system that does not generate air emissions; therefore, SMC requested that this dryer be removed from the MAQP.

On November 30, 2011, the Department received an email correspondence from SMC with an updated list of permitted equipment. The updated list indicated that the two 400 kW diesel compressor engines that were permitted in MAQP #2459-13 were never installed and could be removed from the list of permitted equipment. This correspondence also indicated that SMC would prefer for all of the propane-fired portal and space heaters to be grouped together as a single emitting unit referred to as Propane Usage rather than listing each unit individually. This Propane Usage unit would include the new 28 MMBtu/hr portal heater.

On January 13, 2012, the Montana Department of Environmental Quality – Air Resources Management Bureau (Department) issued the final version of MAQP #2459-14 to SMC. This permit action added the new 28 MMBtu/hr portal heater, removed the concentrate dryer, incorporated the de minimis actions that were approved since the previous permit issuance,

(including the addition of two 2.5 MMBtu/hr propane-fired heated make-up air units in the mill building, a 50 cy/day concrete batch plant, a 1.65 MMBtu/hr propane-fired heated make-up air unit in the emissions testing bay, two 0.120 MMBtu/hr propane-fired heaters in the administrative building and a 50-ton capacity soda ash silo) updated the emission inventory to reflect the new equipment and ventilation capacity, and updated permit language and rule references to current Department practices. **MAQP #2459-14** replaced MAQP #2459-13.

SMC submitted comments on the draft version of MAQP #2459-14 which were received by the Department within the designated public comment period; however, these comments were not addressed in the Department's Decision on the draft permit, or in the final permit, because the submitted comments were not properly relayed to the permit writer. The Department issued an AA to address SMC's comments on the preliminary draft of MAQP #2459-14 and make appropriate changes to permit conditions to reflect those comments. This permitting action updated the facility's potential propane combustion capacity which includes a 2 MMBtu/hr propane-fired space heater (included with the submitted comments as a de minimis determination request); corrected the potential emissions from the concrete batch plant; added applicability statements for 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ; created an annual hourly limit with recordkeeping and reporting requirements for the Shaft Emergency Diesel Generator Engine; updated the facility's potential gasoline combustion capacity; and included a new and complete version of the facility-wide emission inventory. **MAQP #2459-15** replaced MAQP #2459-14.

Operating Permit Background

On June 8, 2001, SMC was issued final and effective **Operating Permit #OP2459-00** for operation of the platinum/palladium mine and all associated equipment.

On December 27, 2001, SMC submitted a permit application for the modification of Title V Operating Permit #OP2459-00. The significant modification included applicable changes made to the SMC operation since issuance of the facility's Operating Permit #OP2459-00. The permit action added applicable requirements for the Nordberg surface crusher and associated equipment to Section III.D of the operating permit, incorporated the Paste Plant Emergency Flush Pump emergency diesel generator (EU012) into Section III.G of the operating permit, added Section III.H to the operating permit to incorporate the Cement Batch Plant operations (EU013), and added the paste plant operation (IEU12) to the existing insignificant emitting unit list contained in Appendix B of this operating permit.

Further, Appendix F to the operating permit was updated to reflect the placement and incorporation of the new downwind PM₁₀ ambient air sampler at the SMC North location. Details regarding associated preconstruction permit changes are contained in Section I.C, Facility Background Information, of this document. **Operating Permit #OP2459-01** would have replaced Operating Permit #OP2459-00 had it gone final. This operating permit was issued as a draft permit only and subsequently withdrawn by SMC.

On July 25, 2002, the Department received a request from SMC for the withdrawal of draft Operating Permit #OP2459-01. SMC requested the permit withdrawal for the purpose of including two 1,500 cfm 400-kW diesel fired air compressor engines (compressor #1 and Compressor #2) to the permitted emitting units at the facility. Compressor #1 and #2 were proposed at the facility after issuance of draft Operating Permit #OP2459-01 and prior to issuance of proposed Operating Permit #OP2459-01. The current permit action adds compressor #1 (EU014) and compressor #2 (EU015) to Section III.H of the operating permit. The permit application for **Operating Permit #OP2459-02** was deemed technically complete on November 15, 2002, after the Department received incomplete information requested from the initial application submittal on July 25, 2002.

Further, on May 21, 2002, the Department received a request from SMC to relax or discontinue ambient air monitoring requirements for the mine located near Nye, MT. When determining if permitted ambient monitoring requirements can be relaxed or discontinued the Department uses the Department Monitoring Requirements Guidance Statement established October 9, 1998. The guidance statement provides an ambient air monitoring decision matrix to be used for determining the need for ambient monitoring.

Since 1988, SMC has operated ambient air samplers on a once every-6-day schedule from November through April and on a once-every-3-day schedule from May through October. Based on actual sampling data from the period of 1997 through 2000 and using the Department's ambient air monitoring decision matrix, the Department determined, with a high level of confidence, that discontinuation of ambient monitoring is appropriate for the SMC facility. As stated in a letter to SMC dated June 10, 2002, effective at the end of June 2002, SMC is no longer subject to ambient air monitoring requirements. Under the current permit action, Appendix F, Ambient Air Monitoring Plan, has been removed.

Further, during the draft permit stage of the permit action, SMC indicated that the facility responsible official has been changed from Harry Smith, Chief Operating Officer, to John Stark, Vice President. Also, during the draft permit stage of the permit action, SMC indicated that the Concentrate Dryer (EU001 in Operating Permit #OP2459-00 and draft Operating Permit #OP2459-01) had been removed from the facility. Therefore, under the proposed permit, the Department removed the Concentrate Dryer from the permit. Finally, the Department updated the operating permit to reflect current operating permit language and format.

In addition to the proposed changes incorporated into withdrawn draft Operating Permit #OP2459-01, this permit action incorporated all of the above proposed changes. **Operating Permit #OP2459-02** replaced draft Operating Permit #OP2459-01 and final Operating Permit #OP2459-00.

On October 7, 2003, the Department received a request from SMC for an administrative amendment of Operating Permit #OP2459-02 to update Section V.B.3 of the General Conditions incorporating changes to federal Title V rules 40 CFR 70.6(c)(5)(iii)(B) and 70.6(c)(5)(iii)(C) (to be incorporated into Montana's Title V rules at ARM 17.8.1213) regarding Title V annual compliance certifications. **Operating Permit #OP2459-03** replaced Operating Permit #OP2459-02.

As required under ARM 17.8.1205(d), on December 7, 2005, SMC submitted to the Department an application for Title V Operating Permit Renewal #OP2459-03. The application was deemed technically complete on December 7, 2005. **Operating Permit #OP2459-04** replaced Operating Permit #OP2459-03.

On December 23, 2011, as required under ARM 17.8.1205(2)(c), SMC submitted to the Department an application for Title V Operating Permit Renewal #OP2459-05. The application was deemed technically complete on February 21, 2012, and issued final on March 26, 2013. **Operating Permit #OP2459-05** replaced Operating Permit #OP2459-04

D. Current Permit Action

On March 29, 2013, the Department received a request from SMC to change Section III.I.3., Compliance Demonstration for the Combustion of Propane Fuel. SMC requested that Section III.I.3 be changed to specify that the compliance demonstration for opacity (visual survey and Method 9 test) be conducted on the Paste Plant Make-up Air Heater and Mine Maintenance Dry Building Hot Water Boiler only. The Department agreed and updated the permit as requested. **Operating Permit #2459-06** replaces Operating Permit #2459-05.

E. Takings and Damaging

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

F. Compliance Designation

On August 29, 2012, the Department inspected the SMC facility. The inspection and material reviewed in the Department's files indicated that the facility was in compliance with the limits and conditions of MAQP #2459-15 and Title V Operating Permit #OP2459-04 at the time of the inspection.

SECTION II. SUMMARY OF EMISSION UNITS

A. Facility Process Description

The Stillwater Mine is an underground platinum/palladium (platinum group metals) mine. The operation includes ore and waste excavation, crushing, conveying, grinding, flotation concentration, and tailings disposal. The concentrate is trucked to SMC's Columbus Smelter for further processing.

B. Emission Units and Pollution Control Device Identification

The emission units regulated by this permit are the following (ARM 17.8.1211):

Emissions Units ID	Description	Pollution Control Device/Practice
EU001	Mine Ventilation Exhaust	NA
EU002	Crushing Ore (Surface)	Water Spray and/or Chemical Dust Suppressant as Necessary; Fabric Filter Baghouse
EU003	Load & Dump; Coarse Ore into Crusher Hopper	Water Spray and/or Chemical Dust Suppressant as Necessary
EU004	Load & Dump; Course Ore into Mill Hopper	Water Spray and/or Chemical Dust Suppressant as Necessary
EU005	Conveying System Transfer Points	Water Spray and/or Chemical Dust Suppressant as Necessary
EU006	Load & Dump; Waste Rock onto Tailings Embankment / Storage	Water Spray and/or Chemical Dust Suppressant as Necessary
EU007	Disturbed Areas	Water Spray and/or Chemical Dust Suppressant as Necessary; Re-Vegetation
EU008	Haul Roads	Water Spray and/or Chemical Dust Suppressant as Necessary
EU009	Diesel Use	NA
EU010	Unleaded Gasoline Use	NA
EU011	Paste Plant Emergency Flush Pump Emergency Diesel Generator	500 Hour Operational Limit; Emergency/Back-Up Operation Only
EU012	Concrete Batch Plant Operations	Water Spray and/or Chemical Dust Suppressant as Necessary; Enclosure and Fabric Filtration
EU015	Soda Ash Silo Bin Vent	Fabric Filter Baghouse
EU016	Propane Combustion	Good combustion practices
EU017	Shaft Emergency Generator	500 Hour Operational Limit; Emergency/Back-Up Operation Only

C. Categorically Insignificant Sources/Activities

The following table of insignificant sources and/or activities was provided by Stillwater. Because there are no requirements to update such a list, the emissions units and/or activities may change from those specified in the table.

Emissions Unit ID	Description
IEU01	Grinding Mills (wet process)
IEU02	Cycloning (wet process)
IEU03	Flotation Circuit (wet process)
IEU04	Thickener (wet process)
IEU05	Vacuum filter (wet process)
IEU06	Paste Plant Operations
IEU07	Open Burning
IEU08	Above Ground Fuel Storage

SECTION III. PERMIT CONDITIONS

A. Emission Limits and Standards

The Department determined that the emission limits applicable to EU001 – Mine Ventilation Exhaust, are as follows: the particulate matter limit is established using the particulate matter calculation for new equipment according to the ARM 17.8.309; Opacity is limited to 20% in accordance with ARM 17.8.304(2). All previously listed emission limits have been established through MAQP #2459-13.

The Department determined that the emission limits that apply to EU002, EU003, EU004, EU005 – Crushing Ore (Surface); Crusher Load-Out Hopper; Mill Load-Out Hopper; and Conveying System Transfer Points, respectively, are as follows: the particulate matter limit (0.05 g/dscm), process emission limit (7% opacity), and process fugitive emission limit (10% opacity), were established according to 40 CFR Part 60, Subpart LL, Standards of Performance for Metallic Mineral Processing Plants. All previously listed emission limits have been established through MAQP #2459-13.

The Department determined that the emission limit applicable to EU006 – Waste Rock onto Tailings Embankment/Storage, is as follows: Opacity is limited to 20% in accordance with ARM 17.8.308. The limit was established in MAQP #2459-13.

The Department determined that the emission limits applicable to EU007, EU008 – Disturbed Areas; Haul Roads, are as follows: opacity is limited to 20% in accordance with ARM 17.8.304(2) and ARM 17.8.749. Further, Stillwater must use reasonable precautions to control fugitive emissions from Disturbed Areas; Haul Roads in accordance with ARM 17.8.308. Stillwater shall have water and or chemical dust suppressant available at all times and used as necessary to maintain compliance with the reasonable precautions limitation (ARM 17.8.308, ARM 17.8.749, and ARM 17.8.752). The limit was established in MAQP #2459-13.

The Department determined that the emission limits applicable to EU009, EU010 – Combustion of Diesel Fuel and Gasoline are as follows: the particulate matter limit is established using the particulate matter calculation for new fuel burning equipment (ARM 17.8.309). The opacity limit applicable to all affected sources is 20% established through Best Available Control Technology (BACT) (ARM 17.8.752) and in accordance with ARM 17.8.304. All previously listed emission limits have been established through MAQP #2459-13.

The Department determined that the operational and emission limits applicable to EU011 – Paste Plant Emergency Flush Pump Emergency Diesel Generator are as follows: the opacity limit applicable to all affected sources is 20% established through BACT (ARM 17.8.752) and in accordance with ARM 17.8.304. The Paste Plant Emergency Flush Pump Emergency Diesel Generator is also an affected source under 40 CFR 63, Subpart ZZZZ and shall comply with emission standards, testing, recordkeeping and reporting as applicable (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ). Further, the emergency diesel generator will only be operated during backup or emergency situations and is limited to 500 hours of operation during any rolling 12-month time period (ARM 17.8.749). Preventive maintenance activities shall be included in the 500 hours of operation during any rolling 12-month time period

The Department determined that the operational and emission limits applicable to EU012 – Concrete Batch Plant Operations are as follows: the opacity limit applicable to all affected sources is 20% established through BACT (ARM 17.8.752) and in accordance with ARM 17.8.304. Further, Stillwater must use reasonable precautions to control fugitive emissions from the Concrete Batch Plant Operations in accordance with ARM 17.8.308. Stillwater shall have water and/or chemical dust suppressant available at all times and used as necessary to maintain compliance with the reasonable precautions limitation (ARM 17.8.308, ARM 17.8.749, and ARM 17.8.752).

The Department determined that the emission limits that apply to EU015 (soda ash bin vent), are as follows: the particulate matter limit (0.05 g/dscm), process emission limit (7% opacity), and process fugitive emission limit (10% opacity), were established according to 40 CFR Part 60, Subpart LL, Standards of Performance for Metallic Mineral Processing Plants.

The Department determined that the emission limits that apply to EU016 (Combustion of Propane Fuel), are as follows: the opacity limit applicable to all affected sources is 20% in accordance with ARM 17.8.304. The propane-fired portal heater at the 5000 East Portal shall be properly operated and maintained in a manner that satisfies the manufacturer's terms for the guarantee of pollutant emission rates, and shall have a maximum heat input capacity design rating not to exceed 28 MMBtu/hr (ARM 17.8.749). Further, total propane combustion capacity at the facility shall not exceed 149 MMBtu/hr (ARM 17.8.749).

The Department determined that the emission limits that apply to EU017 (Shaft Emergency Diesel Engine Generator), are as follows: the opacity limit applicable to all affected sources is 20% in accordance with ARM 17.8.304. The shaft emergency diesel engine generator is also an affected source under 40 CFR 63, Subpart ZZZZ and shall comply with emission standards, testing, record keeping and reporting as applicable (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ). Further, the shaft emergency diesel generator engine will only be operated during backup or emergency situations and is limited to 500 hours of operation during any rolling 12-month time period (ARM 17.8.749). Preventive maintenance activities shall be included in the 500 hours of operation during any rolling 12-month time period.

B. Monitoring Requirements

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements be contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification, sufficient to assure compliance, does not require the permit to impose the same level of rigor for all emission units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have a significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirements for an insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (**i.e., no monitoring**) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

The permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to monitor compliance with the emission limits and standards.

C. Test Methods and Procedures

The operating permit may not require testing for all sources if routine monitoring is used to monitor compliance, but the Department has the authority to require testing if deemed necessary to monitor compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to confirm its compliance status.

D. Recordkeeping Requirements

The permittee is required to keep all records listed in the operating permit as a permanent business record for at least 5 years following the date of the generation of the record.

E. Reporting Requirements

Reporting requirements are included in the permit for each emissions unit and the ambient air monitoring program. Section V – General Conditions of the operating permit explains the reporting requirements for the compliance monitoring reports. The permittee is required to submit semi-annual and annual compliance monitoring reports to the Department and the compliance monitoring reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation. The permittee must annually certify compliance with the applicable requirements contained in the permit.

SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS

Pursuant to ARM 17.8.1221, Stillwater requested a permit shield for all non-applicable regulatory requirements and regulatory orders identified in Table 8-1 of the permit application. Section IV of the operating permit "Non-applicable Requirements" contains the requirements that the Department determined were non-applicable. The following table summarizes the requirements that SMC identified as non-applicable in the renewal permit application and contains the reasons that the Department did not include these requirements as non-applicable in the permit. The permit shield is contained in Section IV of Operating Permit #OP2459-05.

Applicable Requirement	Reason
Sub-Chapter 1 General Provisions	
ARM 17.8.101-104 Definitions, Incorporation by Reference and Reserved ARM 17.8.120 to 121 Variance Procedures ARM 17.8.131 Enforcement Procedures – Appeal to Board ARM 17.8.140 Rehearing Procedures – Form and Filing of Petition ARM 17.8.141 Rehearing Procedures – Filing Requirements	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
ARM 17.8.130 Enforcement Procedures – Notice of Violation—Order to take corrective action ARM 17.8.142 Rehearing Procedures – Board Review	These rules contain requirements for the regulatory authorities and not major sources; however, they can be used as authority to impose specific requirements on a major source.
Sub-Chapter 2 Ambient Air Quality	
ARM 17.8.202 Definitions and Incorporation by Reference	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.204 Ambient Air Monitoring ARM 17.8.206 Methods and Date	These are rules that are always applicable to a major source and may contain specific requirements for compliance.
Sub-Chapter 3 Emission Standards	
ARM 17.8.301 and 302 Definitions and Incorporation by Reference ARM 17.8.330 Emissions Standards for Aluminum Plants - Definitions	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.326 Prohibited Materials for Wood or Coal Residential Stoves	These are rules that are always applicable to a major source and may contain specific requirements for compliance
Sub-Chapter 4 Stack Heights and Dispersion Techniques	
ARM 17.8.401 Stack Heights and Dispersion Techniques - Definitions	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
Sub-Chapter 5 Air Quality Permit Application, Operation and Open Burning Fees	
ARM 17.8.501 Definitions	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.

Applicable Requirement	Reason
ARM 17.8.510 Annual Review	This rule contains requirements for the regulatory authorities and not major sources; however, it can be used as authority to impose specific requirements on a major source.
ARM 17.8.511 Air Quality Permit Application/Operation Fee Assessment Appeal Procedures ARM 17.8.514 Air Quality Open Burning Fees ARM 17.8.515 Air Quality Open Burning Fees for Conditional, Emergency, Christmas Tree Waste, and Commercial Film Production Open Burning Permits	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 6 Open Burning	
ARM 17.8.601 and 602 Definitions & Incorporation by Reference	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.611 Emergency Open Burning Permits ARM 17.8.612 Conditional Air Quality Open Burning Permits ARM 17.8.613 Christmas Tree Waste Open Burning Permits ARM 17.8.614 Commercial Film Production Open Burning Permits ARM 17.8.615 Firefighter Training	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub Chapter 7 Permit, Construction and Operation of Air Contaminant Sources	
ARM 17.8.740 Definitions ARM 17.8.767 Incorporation by Reference	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them
ARM 17.8.743 Montana Air Quality Permits – When Required ARM 17.8.744 Montana Air Quality Permits – General Exclusions ARM 17.8.745 Montana Air Quality Permits – Exclusion for De Minimis Changes ARM 17.8.748 New or Modified Emitting Units – Permit Application Requirements ARM 17.8.762 Duration of Permit ARM 17.8.764 Administrative Amendment to Permit ARM 17.8.765 Transfer of Permit	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
ARM 17.8.755 Inspection of Permit ARM 17.8.756 Compliance with Other Requirements	These rules that are always applicable to a major source and may contain specific requirements for compliance
Sub-Chapter 8 Prevention of Significant Deterioration	
ARM 17.8.801 to 802 Definitions and Incorporation by Reference	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.

Applicable Requirement	Reason
ARM 17.8.804 Ambient Air Increments ARM 17.8.805 Ambient Air Ceilings ARM 17.8.828 Innovative Control Technology	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
ARM 17.8.806 Restrictions on Area Classifications ARM 17.8.807 Exclusions from Increment Consumption ARM 17.8.808 Redesignation ARM 17.8.825 Sources Impacting Federal Class I Areas – Additional Requirements ARM 17.8.826 Public Participation	These rules contain requirements for the regulatory authorities and not major sources; however, they can be used as authority to impose specific requirements on a major source.
Sub-Chapter 9 Permit Requirements for Major Stationary Sources or Major Modifications Located Within Nonattainment Areas	
ARM 17.8.901 Definitions ARM 17.8.902 Incorporation by Reference ARM 17.8.904 When Montana Air Quality Permit Required	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.905 Additional Conditions of Montana Air Quality Permit ARM 17.8.906 Baseline for Determining Credit for Emissions and Air Quality Offsets	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 10 Preconstruction Permit Requirements for Major Stationary Sources or Major Modifications Located Within Attainment or Unclassified Areas	
ARM 17.8.1001 Definitions ARM 17.8.1002 Incorporation by Reference ARM 17.8.1004 When Montana Air Quality Permit Required	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1005 Additional Conditions of Air Quality Preconstruction Permit ARM 17.8.1006 Review of Specified Sources for Air Quality Impact ARM 17.8.1007 Baseline for Determining Credit for Emissions and Air Quality Offsets	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 11 Visibility Impact Assessment	
ARM 17.8.1101 Definitions ARM 17.8.1102 Incorporation by Reference ARM 17.8.1103 Applicability – Visibility Requirements	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1108 Notification of Permit Application ARM 17.8.1109 Adverse Impact and Federal Land Management	These rules contain requirements for the regulatory authorities and not major sources; however, they can be used as authority to impose specific requirements on a major source.

Applicable Requirement	Reason
Sub-Chapter 12 Operating Permit Program	
ARM 17.8.1201 Definitions ARM 17.8.1202 Incorporation by Reference ARM 17.8.1203 Air Quality Operating Permit Program Overview ARM 17.8.1234 Acid Rain – Permit Regulations	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1210 General Requirements for Air Quality Operating Permit Content ARM 17.8.1211 Requirements for Air Quality Operating Permit Content Relating to Emission Limitations and Standards, and other Requirements ARM 17.8.1212 Requirements for Air Quality Operating Permit Content Relating to Monitoring, Recordkeeping, and Reporting ARM 17.8.1213 Requirements for Air Quality Operating Permit Content relating to Compliance ARM 17.8.1214 Requirements for Air Quality Operating Permit Content Relating to the Permit Shield and Emergencies ARM 17.8.1215 Requirements for Air Quality Operating Permit Content Relating to Operational Flexibility ARM 17.8.1222 General Air Operating Permits ARM 17.8.1223 Temporary Air Quality Operating Permits ARM 17.8.1225 Additional Requirements for Air Quality Operating Permit Amendments ARM 17.8.1228 Additional Requirements for Air Quality Operating Permit Revocation, Reopening, and Revision for Cause ARM 17.8.1231 Notice of Termination, Modification, or Revocation and Reissuance by the Administrator for Cause	These rules contain requirements for the regulatory authorities and not major sources; however, they can be used as authority to impose specific requirements on a major source.
ARM 17.8.1224 Additional Requirements for Operational Flexibility and Air Quality Operating Permit Changes that Do Not Require Revisions ARM 17.8.1226 Additional Requirements for Minor Air Quality Operating Permit Modifications ARM 17.8.1227 Additional Requirements for Significant Air Quality Operating Permit Modifications	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 15 Compliance Assurance Monitoring	
ARM 17.8.1501 <i>et seq.</i>	These regulations may not be applicable to the source at this time; however, these regulations may become applicable during the life of the permit.

Applicable Requirement	Reason
40 CFR 50 , Appendices A through R 40 CFR 51 , Requirements for Preparation, Adoption, and Submittal of Implementation Plans 40 CFR 53 , Ambient Air Monitoring Reference and Equivalent Methods 40 CFR 54 , Prior Notice of Citizen Suits 40 CFR 56 , Regional Consistency 40 CFR 58 , Ambient Air Quality Surveillance 40 CFR 63 , Subpart E Approval of State Programs and Delegation of Federal Authorities 40 CFR 64 Compliance Assurance Monitoring 40 CFR 67 , EPA Approval of State Noncompliance Penalty Program 40 CFR 81 , Designation of Areas for Air Quality Planning Purposes 40 CFR 71 , Federal Operating Permit Programs	These rules contain requirements for the regulatory authorities and not major sources; however, they can be used as authority to impose specific requirements on a major source.
40 CFR 60 , Subpart A General Provisions 40 CFR 61 , Subpart A General Provisions 40 CFR 63 , Subpart B Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) and 112(j) 40 CFR 63 , Subpart D Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
40 CFR 52 , Approval and Promulgation of Implementation Plans 40 CFR 62 , Approval and Promulgation of State Plans for Designated Facilities and Pollutants 40 CFR 66 , Assessment and Collection of Noncompliance Penalties by EPA 40 CFR 70 , State Operating Permit Programs	These rules do not have specific requirements but may or may not be relevant to a major source.
40 CFR 63 , Subpart C, List of Hazardous Air Pollutants, Petition Process, Lesser Quantity Designations, Source Category List	These are rules that consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
40 CFR Part 79 Registration of Fuel and Fuel Additives 40 CFR Part 80 Regulation of Fuel and Fuel Additives	EPA determined that this is not an applicable requirement
40 CFR Part 85 Control of Air Pollution from Mobile Sources 40 CFR Part 86 Control of Emissions from New and In-use Highway Vehicles and Engines 40 CFR Part 88 Clean-fuel Vehicles 40 CFR Part 89 Control of Emissions from New and In-Use Non-road Compression Ignition Engines 40 CFR Part 90 Control of Emissions from Nonroad Spark-Ignition Engines at or below 19 Kilowatts 40 CFR Part 93 Determining Conformity of Federal Actions to State or Federal Implementation Plans 40 CFR Part 94 Control of Emissions from Marine	Not Applicable

Applicable Requirement	Reason
Compression-Ignition Engines 40 CFR Part 95 Mandatory Patent Licenses 40 CFR Part 96 NOx Budget Trading Program and CAIR NOx and SO ₂ Trading Programs for State Implementation Plans 40 CFR Part 97 Federal NOx Budget Trading Program and CAIR NOx and SO ₂ Trading Programs	

SECTION V. FUTURE PERMIT CONSIDERATIONS

A. MACT Standards (Part 63)

The Paste Plant Emergency Flush Pump Emergency Diesel Generator Engine (EU011) and Shaft Emergency Diesel Engine Generator (EU017) are subject to all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 63, Subpart ZZZZ.

B. NESHAP Standards (Part 61)

As of the date of permit issuance, the Department is not aware of any NESHAP Standards that are applicable to this source.

Asbestos abatement projects and building demolition/renovation activities will be conducted in accordance with applicable asbestos regulatory requirements. Those regulatory requirements include, but are not limited to 29 CFR Part(s)1926.1101; 40 CFR 763 Sections 120, 121, 124, and Subpart E; 40 CFR 61 Subpart M; State of Montana Asbestos Control Act 75-2-501 through 519 MCA; and State of Montana Occupational Health Rules ARM 17.74.301 through 406. State-accredited asbestos abatement personnel shall conduct the abatement of regulated asbestos-containing materials. Asbestos-containing waste materials shall be transported properly and disposed of in a State-approved landfill.

C. NSPS Standards

The Crushing Ore (Surface) (EU002); Crusher Load-Out Hopper (EU003); Mill Load-Out Hopper (EU004); the Conveying System Transfer Points (EU005); and the Soda Ash Bin Vent (EU015) are subject to all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart LL.

D. Risk Management Plan

As of the draft issuance date of Operating Permit #2459-05, this facility does not exceed the minimum threshold quantities for any regulated substance listed in 40 CFR Part 68.115 for any facility process. Consequently, this facility is not required to submit a Risk Management Plan.

If a facility has more than a threshold quantity of a regulated substance in a process, the facility must comply with 40 CFR Part 68 requirements no later than June 21, 1999; three years after the date on which a regulated substance is first listed under 40 CFR Part 68.130; or the date on which a regulated substance is first present in more than a threshold quantity in a process, whichever is later.

E. CAM Applicability

An emitting unit located at a Title V facility that meets the following criteria listed in ARM 17.8.1503 is subject to Subchapter 15 and must develop a CAM Plan for that unit:

- The emitting unit is subject to an emission limitation or standard for the applicable regulated air pollutant (unless the limitation or standard that is exempt under ARM 17.8.1503(2));
- The emitting unit uses a control device to achieve compliance with such limit; and
- The emitting unit has potential pre-control device emission of the applicable regulated air pollutant that is greater than major source thresholds.

SMC does not currently have any emitting units that meet all the applicability criteria in ARM 17.8.1503, and is therefore not currently required to develop a CAM Plan.

F. PSD and Title V Greenhouse Gas Tailoring Rule

On May 7, 2010, EPA published the “light duty vehicle rule” (Docket # EPA-HQ-OAR- 2009-0472, 75 FR 25324) controlling greenhouse gas (GHG) emissions from mobile sources, whereby GHG became a pollutant subject to regulation under the Federal and Montana Clean Air Act(s). On June 3, 2010, EPA promulgated the GHG “Tailoring Rule” (Docket # EPA-HQ-OAR-2009-0517, 75 FR 31514) which modified 40 CFR Parts 51, 52, 70, and 71 to specify which facilities are subject to GHG permitting requirements and when such facilities become subject to regulation for GHG under the PSD and Title V programs.

Under the Tailoring Rule, any PSD action (either a new major stationary source or a major modification at a major stationary source) taken for a pollutant or pollutants other than GHG that would become final on or after January 2, 2011, would be subject to PSD permitting requirements for GHG if the GHG increases associated with that action were at or above 75,000 TPY of carbon dioxide equivalent (CO₂e) and greater than 0 TPY on a mass basis. Similarly, if such action were taken, any resulting requirements would be subject to inclusion in the Title V Operating Permit. Facilities which hold Title V permits due to criteria pollutant emissions over 100 TPY would need to incorporate any GHG applicable requirements into their operating permits for any Title V action that would have a final decision occurring on or after January 2, 2011.

Starting on July 1, 2011, PSD permitting requirements would be triggered for modifications that were determined to be major under PSD based on GHG emissions alone, even if no other pollutant triggered a major modification. In addition, sources that are not considered PSD major sources based on criteria pollutant emissions would become subject to PSD review if their facility-wide potential emissions equaled or exceeded 100,000 TPY of CO₂e and 100 or 250 TPY of GHG on a mass basis depending on their listed status in ARM 17.8.801(22) and they undertook a permitting action with increases of 75,000 TPY or more of CO₂e and greater than 0 TPY of GHG on a mass basis. With respect to Title V, sources not currently holding a Title V permit that have potential facility-wide emissions equal to or exceeding 100,000 TPY of CO₂e and 100 TPY of GHG on a mass basis would be required to obtain a Title V Operating Permit.

Based on information provided by SMC, SMC’s potential emissions fall below the GHG major source threshold of 100,000 TPY of CO₂e for both Title V and PSD under the Tailoring Rule.